

### Message from the Coordinator

The last decades witnessed the ever growing effectiveness of border protection projects like SIVE and SIVICC. As maritime smuggling from Morocco towards the European borders or Portugal and Spain was combated more effectively, the criminal modus operandi changed drastically, approaching air routes with cheap and small planes. In addition, new drone technology opens the opportunity to both manned and unmanned airborne drug transports. Launched from any location and moving at low altitude and speed to mask their presence with the present clutter environment, drones can autonomously reach any landing site while remaining undetected under nearly all circumstances. It is anticipated that this success will lead to a broader use of these upcoming smuggling methods.

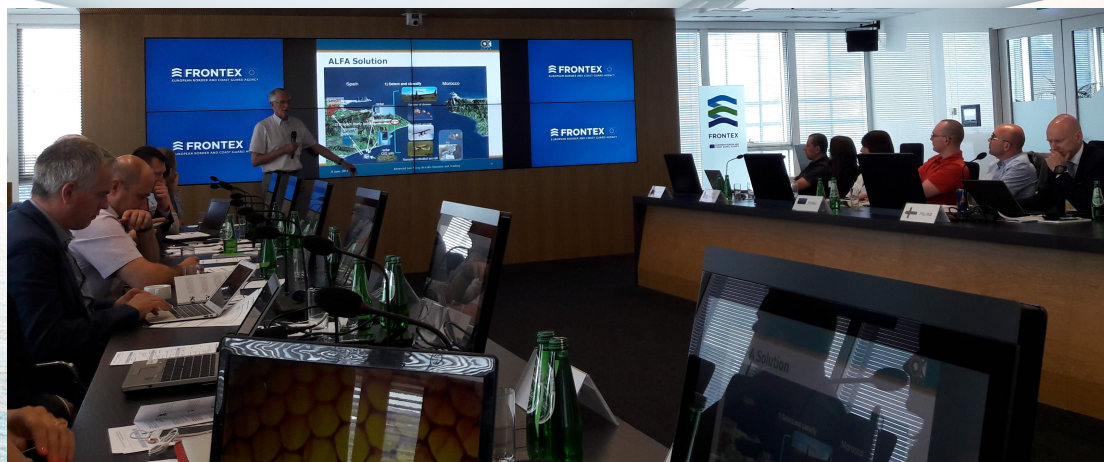
Border security is obviously a critical topic for all EU member states, especially for those countries with external land and maritime borders. The ALFA project is expected to increase surveillance capabilities contributing to the prevention of cross border crimes, in particular in terms of reduction of the traffic of drugs, weapons and illicit substances, focusing on the improvement of the skills for combating drug smugglers that exploit a new modus operandi for crossing borders undetected using small low flying aircraft loaded with drugs. This situation is a global issue, but it has been identified as a major gap to combat drug smuggling entering through the south coast of Spain and Portugal.

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### The ALFA project was presented at the Frontex workshop in Warsaw

On 8<sup>th</sup> June 2017, a workshop on EU funded border security research projects was held by FRONTEX in Warsaw. **FRONTEX – the European Border and Coast Guard Agency** aims to promote, coordinate and develop



European border management in line with the **EU fundamental rights charter** and the concept of **Integrated Border Management**. The workshop started with a short introduction, and continued with the presentation of eight EU funded research projects, one of them being the ALFA project. The ALFA presentation gave a general overview of the problem, which should be solved, using the **ALFA solution and concept**. The key technologies, such as active radar, electro optical sensors, radio location, as well as sensor fusion, threat analysis and landing site prediction were illustrated and discussed. Afterwards, further information about the work packages and their interrelation were given. In general, the FRONTEX workshop was a great chance to inform different national Frontex members about the aim and ongoing work of the ALFA project.


#### Key Data:

Start Date:	1 <sup>st</sup> of January, 2017
End Date:	31 <sup>st</sup> of December, 2019
Duration:	36 months
Project Reference:	700002
Project Costs:	€ 4.613.831,25
Project Funding:	€ 4.613.831,25

#### Consortium:

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### TECHNICAL ACTIVITIES

Since the beginning of the project, the main work was focused on **WP1 "System specifications and operation concept"** and **WP2 "System architecture"** activities. Within WP1 pertinent flying objects (targets and non-targets) were described, including the object list, set of critical objects' parameters and specific impact on the border security. Impact of the new threats on the sensors characteristics and the ALFA surveillance system as a whole was estimated, including peculiarities related to target detection, tracking, and classification as well as to the system-level processes, such as data fusion and landing site prediction. Identification of operational systems and technology gaps to be bridged at developing the ALFA system was carried out. This comprised the analysis and description of the scenarios in which users are involved during border security operations; the identification and analysis of the existing systems involved in operational drug trafficking fighting; the inventory of available subsystems; and the description of user needs as well as current challenges and drawbacks in operational drug trafficking fighting. Concept of operations, system specification and operational requirements were identified. Furthermore, the roadmap for sensor improvements and developments was specified. The results of the operational context consideration indicate that the revealed sensor-specific technological gaps can be bridged with the radar, electro-optical and passive radio-frequency detection subsystems. For these subsystems, the consortium elaborated detailed system specifications as well as identification of corresponding sensors and the subsystem construction strategy.

A WP2 Technical Meeting has been organised in The Hague from 27<sup>th</sup> to 28<sup>th</sup> September 2017 to discuss the tasks and distribute responsibilities. During the meeting it was decided to use RabbitMQ middleware as the backbone of the ALFA system. Partners agreed to further elaborate on the logical and process views, the physical view including mobile aspects, the data view / data model, as well as the security aspect views. The data model comprises all interconnects that have to be made, and require information on the data flow (from the logical and process views) and on the communication protocols of the different sensors (radar, camera, passive RF). A document has been prepared that includes the architecture overview and the architectural views.

### Technical Meeting

From 24<sup>th</sup> to 25<sup>th</sup> October 2017 the second ALFA Technical Meeting took place in Villach, Austria, hosted by the Coordinator TEC. The first day was dedicated to provide the status and future outlook of the first three technical work packages. Afterwards, in-depth discussion and ground laying technical discussions particularly on the architecture took place and several important decisions were taken. At the end of the first day of the meeting, the partners continued discussions in a more informal atmosphere during a common dinner. On the second day the consortium discussed and created the questionnaires for the end-users GC and GNR. Afterwards upcoming dissemination activities, publications and workshops were planned and the next meetings, as well as the upcoming amendment were discussed. Finally, concrete action points were summarized and responsibilities were defined. Summing up, it was a very successful and engaging meeting, providing many inputs that can be used for further research and developments within the ALFA project.



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